No. 15640

IN THE

United States Court of Appeals

For the Ninth Circuit

1957 TERM

JOHN PHILLIP ZANNARAS, J. P. ROBINSON, JR. *and* U. S. TUNGSTEN CORPORATION,

Appellants,

vs.

BAGDAD COPPER CORPORATION, a Corporation,

Appellee.

Appeal from the United States District Court for the District of Arizona

BRIEF OF APPELLEE

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PREFACE

Appellants have so thoroughly commingled the relevant with the irrelevant that a Motion to Strike from the Record and their Opening Brief would but add to the confusion. In effect, appellants, despite the fact that there was no order of consolidation (14248 R. 52, 53, 54, 27, 28, 29, 30, 31, 32) have incorporated the testimony and evidence taken in another cause, No. 321, affirmed in this Court (229 F. 2d 920) into their statement of the case. In addition, they have gone back and indiscriminately

helped themselves to such portions of Cause No. 129, disposed of in the District Court in 1945 and of the evidence admitted on the first trial of this action in 1949 resulting in a judgment adverse to appellants from which no appeal was taken and which has long reposed undisturbed as a final judgment, as suits their fancy.

In so doing, appellants have presented an untrue and distorted picture which, if left unchallenged, cannot but leave the disturbing fear in our hearts that this Court might, perhaps unconsciously, be disturbed thereby.

Rather, therefore, than either ignoring matters not properly before the Court or requesting the Court to strike all such irrelevant matter, we shall briefly meet it head on, to the end that the Court may have what is at least our version and view of the true fact situation.

REPLY TO STATEMENTS RE "JURISDICTION"

We quarrel not with the statements having a bona fide relation to jurisdiction. We do object to additional unrelated argument.

The judgment entered on the first trial of this action in 1949 was that "plaintiffs (appellants) take nothing by their action, and that defendant (appellee) have and recover its costs in this behalf expended or incurred." (R. 12) The Court then ordered "that this cause be retained by the Court for further orders should the same be deemed necessary *in the future . . .*" (emphasis added)

As heretofore indicated, there was no consolidation of this cause with Cause No. 321. Neither did the District Court nor this Court on appeal in Cause No. 321 "determine the same water rights" as are involved here. The sole object of Cause No. 321 as presented by Bagdad was to secure an adjudication that appellants had obtained their certificate of water right by fraud or had forfeited it by non-user. This Court agreed with the District Court that we were too late in raising the fraud issue and hence barred by limitations and that there was sufficient evidence of inter-

mittent user by appellants to defeat a forfeiture. So any statement that the purpose of this appeal is to enforce the mandate of this Court issued on the appeal in Cause No. 321 is so much nonsense.

We are sure appellants inadvertently make the assertion (p. 4) that the judgment entered by the trial court and from which this appeal is taken was after a trial "involving . . . the same water rights *and the same evidence . . .*" as Cause No. 321. Practically the entire second volume of the Transcript of Record is made up of evidence taken long after Cause No. 321 was submitted to and decided by the District Judge.

STATEMENT OF THE CASE

THE LITIGATION HISTORY

The trial of this cause, on its setting for further taking of testimony, was the fourth round in the legal fisticuffs quickly beginning after Mr. Zannaras arrived in the area.

Round One.

In 1944 Zannaras served notice on Bagdad that its tailings were polluting the waters of Burro Creek, to his great damage. This despite the fact a sandy, rocky stretch of Burro Creek some seven miles in length lies between. Suit was filed for an injunction and $35,000 general and exemplary damages. The present management had just taken over and it proceeded promptly to rearrange its tailings disposal method by constructing a dam across a canyon whereby the tailings were impounded, thereby making further claim of pollution impossible and also enabling Bagdad to reuse the water after the tailings had settled out. (14248 R. 292)

On February 14, 1945 (14248 R. 370) Bagdad's general manager advised Zannaras by letter that the conditions which permitted tailings to escape had been corrected and that the creek water was clear. On February 16, 1945, Zannaras filed his damage suit, Cause No. 129, United States District Court, Prescott, despite the fact Bagdad had corrected the condition within the

sixty day period proposed by Zannaras in his letter of December 16, 1944. (14248 R. 369)

After a day's trial, since the condition could not now re-occur, to avoid the expense of a long trial, Bagdad agreed to an injunction and to what was, in practical effect, a judgment for nominal damages with each party to pay its own costs. (14248 R. 395, 396)

An interesting sidelight on this marathon litigation is afforded by this admission by Mr. Zannaras testifying on the trial of this action in July, 1945 (14248 R. 395):

> "Q. Did you at that time say to Mr. Greene and to Mr. Dickie (Bagdad management) that your price was $75,000.00 and any time that they had to have it it was neither more nor less? Did you make that statement?
>
> "A. Not in that form."

Round Two.

July 12, 1948 Zannaras filed suit in the United States District Court against Bagdad, Cause No. 221, seeking damages and an injunction, alleging that Bagdad was usurping the water which otherwise would service the appropriation of Zannaras. Issue was joined and the cause was tried before the Court without a jury beginning March 3, 1949. Extensive testimony was taken not only upon the issue of the availability of water to Zannaras but also as to whether in fact *Zannaras had any bona fide use for the water claimed.*

The Court made a Finding of Fact in denying Zannaras relief:

> "That plaintiffs have failed to prove by a preponderance of the evidence that plaintiff suffered any loss of profits by reason of any improper diversion of water by defendant, or that said plaintiffs have been interfered with *in the operation of or carrying out of any bona fide mining or milling activity* by any wrongful diversion of water by defendant, Bagdad Copper Corporation." (No. 15640 R. 11) (Emphasis added)

The evidence to support this conclusion was ample.

The mill of appellants was ready for use in 1941. Apparently some old tailings were run through the mill in that year, although in all of his previous sworn testimony Zannaras had said his first milling operation was in the fall of 1942. (14248 R. 313, 314, 315) Apparently there was no recovery and no claim can be made by appellants that this was a beneficial use. (14248 R. 314)

In 1942, although there was ample gold ore available:

"Q. How do you know you had plenty of ore?

"A. I could see the Mystery Mines in the locality up there, rich bars of gold ore.

"Q. At the Mystery Mine?

"A. Not only at the Mystery, in all that vicinity." (R. 109) only a few tons of ore were milled, probably in the neighborhood of 10 tons. (14248 R. 315, 316, 317) None of the resulting concentrates were sold. (14248 R. 317); they were just left at the mill. (14248 R. 325) In December of 1943 appellants shipped 10 tons of raw ore to the Phoenix stockpile, receiving a net return of $358.34 (14248 R. 373) In that month they claim they started to mill — milled 7 - 10 tons, and that thereafter the water was bad so they suspended operations to November of 1944. (14248 R. 375, 385) In November of 1944 again the standard 7-10 tons were milled. (14248 R. 385) These concentrates apparently were also just left at the mill. (14248 R. 389) Appellants admit that by May of 1945 the water was entirely cleared up. (14248 R. 408) The mill was probably operated once in 1945, with about 6 tons of ore milled. (14248 R. 408) Thereafter, except for some claimed "trial tests" (14248 R. 336), "checking the condition of the mill," no attempt was made to operate the mill until June of 1948 when, appellants claim, there was no water available. (14248 R. 342)

Robinson went into the Army in the summer of 1945 and returned from service in the summer of 1947. (14248 R. 336, 339) His only experience as a miner prior to coming to Arizona in 1940 was in working as a coal miner in Pennsylvania (14248

R. 306); yet Zannaras testified that he shut down to await the return of Robinson from the Army (14248 R. 337) because he couldn't hire any qualified labor to replace him. (14248 R. 336) After the return of Robinson from the Army in 1947 the explanation for failure to operate is touching:

"Q. Why didn't you go ahead and put your mill back in operation then?

"A. Because Mr. Robinson wanted to be near his wife. He brought his wife from the other side and he wrote me a letter he wants to stay near his wife, for a few months until she got used to the desert, so we decided to build a laboratory.

"Q. Was there anything to keep Mr. Robinson from staying at the mill and being near his wife, and you directing the operations of the mine? I mean there wasn't any need for Mr. Robinson, you could hire plenty of men?

"A. I will tell you, a man and a wife and a girl coming from the other side and they are on the desert in Arizona is something different. I don't know whether you realize it or not. Mr. Robinson wanted to be near his wife and I justified him 100 per cent, I—Remember I make sacrifice to him to go ahead and built the laboratory, something we needed there.

"Q. Your mine was about, say eight miles away from your mill?

"A. About ten miles.

"Q. Was there any reason why you were afraid to go to the mine without Mr. Robinson being with you?

"A. Went to the mine?" (14248 R. 340)

The Court had in addition as a backdrop against which to judge the sincerity and truthfulness of Zannaras' testimony as to his bona fide intentions, his testimony, solemnly given under oath, that, in putting 3,000,000 gallons of water per year to beneficial use not to exceed five men drank, used for bathing, cooking and cleaning the house 2,000 gallons of water every day, used 1,000 gallons every day except Sundays in washing the floor of

the mill and, for operating a jackhammer and wetting down ore, 8,000 to 10,000 gallons per day. (14248 R. 413 - 422)

Rounds Three and Four.

In this Cause No. 221, pursuant to reserved jurisdiction, appellants filed a "Petition for Relief" on February 8, 1951 which was amended March 28, 1951, claiming again that Bagdad was usurping appellants' water. Issue was joined and the matter set for hearing.

On March 5, 1951, Bagdad filed Cause No. 321 in the District Court praying cancellation of appellants' water right for fraud in its procurement and in the alternative cancellation for non-user resulting in statutory forfeiture. Issue was also joined in this cause and it was set for hearing on the same day as the further hearing in Cause No. 221.

On May 13, 1952, the Court proceeded to first hear the evidence in Cause No. 221 (14248 R. 26, 28, 51, 52, 53) and then to hear the testimony in Cause No. 321 (14248 R. 141) which also constituted Bagdad's rebuttal and both causes were submitted on briefs. (14248 R. 32, 367, 368) On July 6, 1953, the Court, by minute order (14248 R. 32) found the issues for defendants in Cause No. 321. Findings of Fact and Conclusions of Law were settled and judgment rendered for defendants, which on appeal this Court affirmed.

On the same day that by minute order in Cause No. 321, the Court found the issues for defendants (appellants) in Cause No. 221, the Court vacated its order of submission *for the purpose of taking further evidence* (R. 644) and the matter was finally set for taking additional evidence on March 9, 1954. On this hearing, which lasted three days, appellee, Bagdad, presented a large amount of scientific and engineering evidence, after which the matter was again submitted.

STATEMENT OF THE CASE

In 1941 appellants had their mill completed (so they claim) and ready for use; they had a large ore body of high grade gold ore

blocked out and ready to mine and mill. (14248 R. 312, 313) But Zannaras only milled (so he says) some tailings, operating only 6 - 8 hours in 1941. (14248 R. 313)

So now, appellants being all set up and ready to mill gold ore, turned from the gold property to tungsten. A total of 8 - 10 tons of ore was milled in 1942 but no effort was made to commercially dispose of the end product. (14248 R. 316, 317, 325)

Then appellants moved to another part of their claims (14248 R. 317) and in 1943 either the mill was not operated at all or only briefly in November or December "for operating purposes." (14248 R. 325, 326) The total ore milled to December of 1944 from the start of the enterprise was 8 - 10 tons.

"Q. Well now, how much ore had you put through your mill prior to the 1944 operation?

"A. 10 or 12 tons — 1944?

"Q. I mean between the time you milled the 10 or 12 tons and the time you shut down in December 1943, how much did you put through?

"A. I don't get the question.

"Q. Between the time when you milled the 10 or 12 tons until the time you shut down in December of 1943?

"A. No, I didn't mill any during that time.

"Q. In other words, up to the time you shut down in December 1943, you had put 10 or 12 tons through the mill?

"A. That is right.

"Q. Then in the latter part of 1944 you ran the mill for a day?

"A. Yes.

"Q. Can you tell us approximately how much ore you put through it?

"A. About 10 tons.

"Q. And what was done with those concentrates?

"A. I have them." (14248 R. 328, 329)

Appellants excuse non-operation through 1944 on the basis that the finely ground tailings of Bagdad, after traveling seven miles through a sandy stream bed, so polluted the water it wore out his pump and was unusable. (14248 R. 330, 331)

From and after May, 1945 the water was clear and plentiful (14248 R. 331) but other than for a few claimed "test runs" no effort was made to operate through 1945, 1946 or 1947. This non-operation was substantially without excuse. (14248 R. 335, 336, 337, 338, 339, 340, 341, 342)

Failure to operate in 1948, by the judgment of the Court in Cause No. 221 in favor of Bagdad cannot be charged to Bagdad since the judgment found that Bagdad had not deprived appellants of water during that year.

In 1949 appellants claimed to have milled tungsten ore variously described as "several truck loads," (14248 R. 343) "probably over a hundred tons," (14248 R. 344) "approximately a hundred tons." (14248 R. 344)

In 1950 appellants claim to have milled 200 to 300 tons of gold ore (14248 R. 344, 345) but for some reason the resulting concentrates were not sold but left at the mill. (14248 R. 96)

For some reason, when there was ample water, appellants either worked the ore bodies or rebuilt or overhauled the mill, and it was only in seasons of expected shortage of water they tried to mill.

"Q. Why didn't you have your mill overhauled and ready to go when the water came?

"A. I started already. I bought machinery and improved my mill. I installed a classifier.

"Q. Why did you have to wait until the water came before you started putting your mill in shape to run?

"A. Now let me get the question. You want me to start working and get ready for the water. We were doing work around here. Now I remember we were working the gold

claim. I had an employee by the name of Warren Lyman. We were working the gold claim.

"Q. From November 17 on what did you do with respect to running your mill?

"A. Running the mill? I told you I started to overhauled the mill and installed a classifier.

"Q. That is after the water was rolling by.

"A. Yes.

"Q. Why hadn't you done it before?

"A. We were developing ore.

"Q. Now isn't it a fact, Mr. Zannaras, every time the water started you found some excuse not to start your mill up until just recently.

"A. Any time I started it takes me about 1½ months to overhaul the machinery." (14248 R. 97 - 98)

Subsequent to the trial in 1952, Bagdad began an investigation of the possibility of building a dam to store flood waters, thereby stabilizing the flow of the stream and solving the summer water shortage (R. 611, 612) and applied for a permit for a dam site from the State of Arizona. Zannaras, despite the fact his diversion is for only 3,000,000 gallons per year (10 acre feet total) and the fact that a reservoir impounding 20,000 acre feet of flood water which now is wasted would solve everyone's problems, not only protested Bagdad's dam permit application, but filed an application for a reservoir right-of-way which paralleled the site as disclosed by Bagdad's engineering data filed with the State Water Commissioner and Bagdad moved its dam site down creek one and one-half miles. (R. 611, 612, 596, 597) Probably the closing testimony by Zannaras at the 1954 hearing best summarizes the situation:

"Q. Do you have any records of how much money you have actually realized from any milling operations there?

"A. Yes.

"Q. Do you have any records?

"A. Yes, we have records.

"Q. Where are they?

"A. Up at the place, in the mines.

"Q. What do they consist of?

"A. The returns. They sent us a return.

"Q. Do you have an actual book which shows the amount of concentrate sold and the price for it?

"A. We may have the returns.

"Q. Do you have a record to keep track of what you get from selling concentrates?

"A. I may have.

"Q. Don't you know?

"A. Because we were reorganizing at the time. We were reorganizing the company.

"Q. What did you use for making out income tax returns?

"A. We have got records.

"Q. You have got records which show just what you are taking in from your operations?

"A. It was just testing operations, don't forget that. It is just testing.

"Q. You were testing since 1942? That is in substance what you have been doing up there, testing and developing new mines?

"A. We were developing the mine, and I built a big mill up there now, and it takes time.

"Q. Your mill at Burro Creek has been ready to run since 1942, has it not?

"A. Ready to run?

"Q. Yes, been ready to operate since 1942?

"A. I told you we developed the mine. The mill was ready to receive ores.

"Q. Since 1942 the mill at Burro Creek, according to your testimony, has been in a condition to operate, has it not?

"A. Yes, it will operate.

"Q. Since that time you have continued to revise the mill and open new mining bodies, but have done no mining, substantially?

"A. Well, substantially, there is nothing."
(R. 605, 606)

In the light of the foregoing it is rather apparent that the huffing and puffing which appellants resort to in the Opening of their Statement of the Case to the effect they had a five year contract with the U.S.G.S.A. for their production of tungsten is so much hot air. The facts are, by Zannaras' own admission, that up to March of 1954 the contribution of appellants to the economy of the state or nation by way of production of tungsten or any other mineral of value was in practical appraisal exactly nil and, insofar as custom milling ore for others is concerned, the two victims of this "commercial" activity testified in the 1952 hearings. Alvis M. Short testified he took 7 tons to the Zannaras mill in 1950 from which 100 pounds of concentrates were obtained which did not meet government specifications but had to be recleaned yielding thereby 60 pounds which he sold for a total of $58.00. The milling charges were $60.00. Seven tons of similar ore milled at Kingman, Arizona, yielded 1,000 to 1,100 pounds of concentrates and brought about $2,500. (14248 R. 237, 238)

William L. Nutter took 5 tons of crude ore and 1,500 pounds concentrates to the Zannaras mill in 1951 which should have given a recovery in the neighborhood of $1,000. The settlement sheet from Zannaras was around $7.00. (14248 R. 320, 321, 322) No evidence of substantial character was offered to substantiate any of the claims Zannaras made as to expenditures or otherwise.

In preparation for the 1954 hearing Bagdad employed the services of Dr. Heinrich J. Thiele and Professor Herbert C. Fletcher to make a study of the water supply, the topography, soil condi-

tions and related physical facts in the expectation of establishing some formula by which water releases at the Bagdad diversion could be fixed by the Court thereby ending the recurring harassment of claims that water due Zannaras was being denied him. These two thoroughly competent scientists arrived at some rather startling conclusions which, however, completely supported the testimony of numerous witnesses given during the 1952 hearing hereafter referred to.

Dr. Thiele, a resident of Tempe, Arizona, is a graduate of the Clausthal School of Mines in Germany, the Montana School of Mines, Butte, Montana and the Technical University of Berlin. He graduated in 1936 from Clausthal and then attended Montana School of Mines where he obtained his Master's Degree. He returned to Germany and worked as a ground water consultant, working for cities and large industries. He has a Doctor's Degree in Engineering, Master's Degree in Mineral Dressing and an Engineering Degree in Mining Engineering. (R. 371, 372) He returned to the United States after World War II in 1952 and is a Registered Civil Engineer in Arizona. He has taken out his first papers as a citizen.

Dr. Thiele has made an underground water study for the Salt River Valley Water Users' Association and was then engaged in a similar study for the Indian Service for the Indian Council at Sacaton, Arizona. He is the author of numerous scientific papers, a textbook and part of another (R. 379) and has lectured in ground water courses of the U. S. Geological Survey in Austin, Texas, University of Texas. (R. 399)

Professor Fletcher is a graduate of Forestry and Geology from Utah State Agricultural College and holds a Master's Degree in soils and sedimentation from the University of Missouri and has pursued his work for a Doctor's Degree in that Science at the University of Oklahoma. He is in charge of the water shed management research for the U. S. Forest Service stationed at Arizona State, Tempe, Arizona. He has been in actual practice since 1935, first with the Soil Conservation Service from 1935 to 1939. He

was in charge of the Division of Water and Forest Information for the Forest Service at Washington, D. C. and returned to the Southwest in 1948, since which time he has constantly conducted experiments, made studies and authored papers relating to water losses from soils. (R. 498, 499) He collaborated with Dr. Thiele in the studies reported to the Court.

In preparation for the study a U. S. Geological Survey aerial photo map of the Burro Creek area from the Bagdad diversion point to the Zannaras diversion point was obtained. This was turned over to George Colville, a Registered Civil Engineer who had large experience in surveying. By an actual field survey, using two survey parties over a week's time, the accuracy of this map as to the boundaries of the creek bed was confirmed and the elevations of the bed were established by cross sections. (R. 355, 357, 358, 495) The aerial photograph with the area of the creek bed colored yellow is Defendant's "N" in Evidence. (R. 357, 361) The point marked "A" identifies the Zannaras diversion point, the point marked "B" that of Bagdad. The actual cross section survey showing the basin of the creek bed is Defendant's "O" in Evidence. (R. 369, 370)

This map, "N" in Evidence, and the survey, "O" in Evidence, shows that the creek debouches from a rocky canyon or ravine (R. 383) at point "B" and spreads out into an alluvial plane extending generally northeast-southwest a distance of some 4 miles where it again contracts or pinches in on a narrow bed rock and lip and is exposed and the stream bed again assumes a somewhat thread-like appearance. The area of the creek bed in this valley or plane area within the exterior boundaries of the creek bed edges contains 1374 acres. (R. 361) Through this entire four mile stretch the water disappears underground and also comes to the surface at places and spreads out (R. 496) sometimes as much as 100 feet with saturated ground on each side as above the Kingman Crossing. (R. 497) Generally speaking, through this area there is no channel with banks on either side. (R. 497, 481, 482, Deft. Ex. "O" in Evid.) The point where the creek bed con-

stricts back to thread-like appearance is the point where the old Wickenburg-Kingman highway crosses the creek and is constantly referred to as the "Kingman Crossing." The area between the Kingman Crossing and the Zannaras diversion, a distance of about 3 miles, (R. 460, 461) was also surveyed and computed and the area within the boundaries of the creek for this area was found to make up 82.5 acres or a total creek bed area between the two diversion points of 1456.5 acres. (R. 326)

The creek bed from the Bagdad diversion to the Kingman Crossing is made up of gravels, clayey gravels, sands and silts (R. 362); from the Kingman Crossing to the Zannaras diversion it is made up of a sheet of gravel over bed rock. (R. 362) Burro Creek has an approximate elevation of 2400 feet which is substantially below the elevation of Bagdad. (R. 409)

The average width of the river channel below Kingman Crossing is 215 feet while above the crossing and to the Bagdad diversion it averages about 2,000 feet. (R. 437, 438) The slope or fall from Bagdad diversion to Kingman Crossing is approximately 400 feet. (R. 461) The slope or drop from Kingman Crossing to Zannaras diversion is 140 feet. (R. 466) The standing water level in the water well at Bogle Ranch, a point about one-half way between the Bagdad diversion and the Kingman Crossing, was observed by Dr. Thiele to be 150 inches higher in elevation than the elevation at Kingman Crossing. (R. 448, 449) The sands and gravels making up the river basin carry moisture to within one-half to one-quarter foot of the surface (R. 467) and the entire basin is overgrown to approximately a 50% density with phraetophyte type of vegetation such as cottonwoods, willow, catspaws and mesquite (not a true phraetophyte). (R. 512) Cottonwoods will use up to 6 acre feet of water, mesquite between 3 and 4 acre feet, and willow 6 to 7 acre feet. (R. 512) A phraetophyte is a water loving plant which to thrive must have its "feet" in free water. (R. 510, 511)

Dr. Thiele began his study February 18, 1954, which continued 18 days up to the trial date (R. 387) with about two-thirds of

the time actually spent in the field and on the ground. He had 4 to 6 people assisting him in the field. (R. 387)

Dr. Thiele, after making an aerial survey of the area consisting of three separate flights to study the formations, topography, etc. (R. 377) turned to the known data as to physical condition. (R. 378) He examined and tested cores from test drilling and checked the water level in wells. These drill cores went to bed rock from 100 to 400 feet (R. 435, 436) below the Bagdad diversion (about the Bogle Ranch as shown on "N" in Evidence). Some were 20 to 30 feet apart, others up to 300 feet. These tests together with the geophysical work done by Dr. Thiele demonstrated a cover of gravels and clay gravels to a depth of 90 feet in this basin, deeper in some places than others.

Dr. Thiele, by use of geophysical procedures, measured the depth and area of the creek basin from the Bagdad diversion to the Zannaras diversion. This is a procedure or method commonly employed by the U. S. Bureau of Mines (R. 375) and by the oil industry. (R. 376) It employs electrical impulses; electrodes with the penetration of the current related to the distance between the two electrodes indicating the resistivity which in turn is interpreted by the scientist in terms of depths and materials traversed by the electrical impulse. (R. 383, 384, 385, 386, 388) The percentage of error in determining depth to bedrock is 10% (R. 386). Thirty separate readings or movement of the electrodes were made at each station and 65 stations from Point A to B, Exhibit "N" were established.

By these means, Dr. Thiele plotted the depth to bed rock and the overlaying materials from Point A to B. His findings are graphically depicted in Defendant's "R" (apparently through oversight this exhibit was never formally received in evidence although fully testified to by Dr. Thiele). This exhibit presents a cross-section, lengthwise of Burro Creek from Points A to B (R. 390) demonstrating bed rock and overlaying gravels and alluvial material. (R. 390) It demonstrates Dr. Thiele's testimony that an old valley or river channel lies running in a gen-

erally easterly-westerly direction immediately below the Bagdad diversion which valley has filled with alluvial fill, fanglomerate-breccia, which is relatively impervious although with some water holding capacity. (R. 394) This is overlaid with gravels from Point A to Point B to a thickness varying from 40 feet to 7 feet with the thicker overlay prevailing. (R. 394, 395) At the Kingman Crossing bed rock slants to the surface and in effect creates a stone dam at that point over the lip of which the ground water rises and flows on the surface. (R. 393) The valley to bed rock at its deepest point is 1200 feet and the stream flows across it at an angle on top of the fill materials and through the sand and gravels. (R. 395, 396) This Exhibit "R" accurately reflects the findings of Dr. Thiele. (R. 394, 396)

The permeability of various types of soil material is well known and tables are available giving this information. (R. 401) The coefficient of permeability is important in determining the underground movement of water. The amount of flow is determined by computing the coefficient of permeability times the slope of the water table measured in feet per mile times the square section of the aggregate of the aquifer of the water bearing material. (R. 401, 402)

Assuming the highest permeability factor the maximum amount daily flowing underground at Bagdad diversion would be 9 acre feet of water; assuming the lowest permeability factor the amount per day moving underground would be one-tenth of an acre foot per day. (R. 404, 405) So long as there is live surface water in a stream the underground movement of water is unvaried. Floods or the *amount* of surface water flowing has no appreciable effect on the underground movement. (R. 415, 416) Gravels of the character here involved have a water holding capacity of about 23% with a free moving water capacity of 20%. According to Darcy's law, by which the movement of underground water is computed, water moves at from 60 feet to one-half mile per year depending on permeability and slope. (R. 462, 463) Hence, the water moving under the gravels would take at least two years to go from Point B to Point A.

Assuming an average of only ten feet overlay of sands and gravel in the creek bed between Kingman Crossing and Bagdad diversion this material would provide a reservoir for 2700 acre feet of water; and another 150 acre feet in the gravels between Kingman Crossing and Zannaras diversion (R. 469), one hundred fifty acre feet capacity equals about 20,000,000 gallons of free water. (R. 466)

The United States Weather Bureau has established mean monthly and annual pan evaporation rates of water at Roosevelt, elevation 2200 feet, Tucson, elevation 2423 feet, and Safford, 2900 feet, (Deft's "S" in Evid.) Annually these are, respectively, 79.87 inches, 72.71 inches, and 82.95 inches. Bagdad proper is given an annual rate of 75 inches loss (R. 405) and since it is substantially higher than the bed of Burro Creek, the Tucson figure of 82 inches is probably more accurate. (R. 417) The Bureau of Reclamation estimates the ground evaporation of the Burro Creek area at 60 inches per year. (R. 418) The figures at Roosevelt, Safford and Tucson show that June and July are the months of very high loss with an average of approximately 15% of the entire yearly loss occurring at Tucson in June with close to this in May and July.

Accordingly, as illustrative of the problem here involved, Dr. Thiele took the month of June 1953 and made a computation. First, he assumed the highest permeability of the underground at the Bagdad diversion and assumed instead of 1 acre foot a day discharge underground the maximum of 9 acre feet or 270 acre feet per month.

Next, he computed from records the entire amount of water pumped by Bagdad in June or 69 acre feet. (R. 424) He then computed from the U.S.G.S. gauge readings the amount of water passing Bagdad diversion and found a total of 295 acre feet of water in the river *above* the Bagdad diversion made up of 30 acre feet underflow, 69 acre feet pumped by Bagdad and 196 acre feet passing down the river. If we assume the maximum underflow at Bagdad diversion, or 270 acre feet instead of 30, we have a total of 535 acre feet available.

15% of the assumed evapo-transpiration of 60 inches at Burro Creek is 9 inches or ¾ths of 1 foot, which computed over the 1456.5 acres of creek bed gives a water loss of almost 1100 acre feet during June of that year. (R. 418, 419)

Professor Fletcher's studies chiefly resulted in two exhibits, Defendant's "Y" in Evidence and Defendant's "A" and "B" in Evidence.

The purpose of Exhibit "Y" is to graphically demonstrate the extreme rapidity with which evaporation and transpiration rate of water loss rises as the summer months come on and to relate this loss to stream and basin water supply. It also relates the long term rainfall record to this water use and demonstrates the fact that if Bagdad took no water at all in the dry summer months the most that could result to benefit Zannaras would be a delay of perhaps a week in drying up of the available water. In other words, the requirements of this large basin to satisfy the potential water loss which would follow a full supply is so great in the hot summer that the maximum draft of 94 acre feet which Bagdad can draw, if suspended, would merely afford that much more water to satisfy the evapo-transpiration potential of the basin. (R. 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 527, 528, 529, 530, 531, 532, 533, 564) None of it would reach the Zannaras diversion. He estimated the evapo-transpiration requirements of the valley in June and July at in excess of 800 acre feet input (R. 520, 521); and that in June and July the lower part of the basin would lose more water than a free water surface while the higher or upper end would lose less. (R. 563)

It was the unanimous and firm conclusion of both Dr. Thiele and Professor Fletcher that the amount of water taken by Bagdad during the months of low water supply and high water loss through evapo-transpiration did not substantially contribute to the water loss complained of by Zannaras. (R. 428, 521, 522)

There was no evidence offered to contradict or impeach the validity of their conclusions other than by reference to the fact

that on occasions through the summer water does run in the creek. This was well answered by Professor Fletcher (R. 534, 535):

"Q. Now, this figure that you have there, as to the loss in evaporation over the basin, that represents an average overall picture, is that the case?

"A. That is right. Yes, you can't just tie it down to one particular location like this. This is an average, taking the average of precipitation for that particular weather station.

"Q. For that area?

"A. For that area.

"Q. That is the reason, I take it, why you might go out there in July or August and find free running water when you theoretically wouldn't find it on the basis of a long-term investigation?

"A. Yes."

The conclusions reached by Dr. Thiele and Professor Fletcher are completely supported by the testimony of many witnesses familiar with the creek long before Bagdad did any pumping. These witnesses, many disinterested, testified the creek uniformly dried up and the water disappeared usually about July each summer except in places where it reappeared at the surface including uniformly with the exception of two years, at Kingman Crossing. (14248 R. 142, 143, 144, 145, 150, 151, 155, 173, 174, 175, 178, 179, 180, 234, 235, 236)

Indeed, Zannaras himself, when his claim related to pollution and not shortage, so testified twice to this effect under oath. (14248 R. 411, 390)

ANSWER TO ARGUMENT "BURDEN OF PROOF"

The rule is now established that "He who seeks to have a judgment set aside . . . carries the burden . . . "

Palmer v. Hoffman, 63 S.Ct. 477, 318 U.S. 109, 87 L.Ed. 645 144 A.L.R. 719.

28 *U.S.C.A.* Sec. 2111

> "But it is likewise settled that appellee may, without taking a cross-appeal, urge in support of a decree any matter appearing in the record, although his argument may involve an attack upon the reasoning of the lower court or an insistence upon a matter overlooked or ignored by it."

United States v. American Ry. Express Co., (1924) 265 U.S. 425,435

The appellants assume that the trial court affirmatively reached the conclusion which he did by application of the rule that the appellants had the burden of proof in establishing that the pumping operations of Bagdad rather than natural conditions caused a claimed shortage at appellants' diversion point. The record does not require any such conclusion. Rather it requires the conclusion that the trial court applied the rule

> "A party who bases his right on prescription or adverse possession, or on the abandonment or forfeiture of prior rights, has the burden of proof as to such matters; but when he makes a prima facie showing, the adverse party has the burden of rebutting or overcoming it."

93 *C.J.S.* 1014, 1015, Sec. 201
67 *C.J.* 1061, note 19

Appellants' total appropriative right of 3,000,000 gallons annually is equal to 10 acre feet of water per year. (R. 471) There is no provision in the certificate of water right that appellants are entitled to this relatively small amount of water pro rata per day, per week or per month. (Plf's Ex. A in Evid. 14248 R. 22) The record is replete with evidence to the effect that it is a wasting stream in the summer, tending to disappear in the gravels and reappear from place to place. (14248 R. 142 et seq.; 150 et seq.; 173 et seq.) There is a gravel overlay at the Zannaras diversion by actual measurement and calculation varying from 7 feet to 37 feet. (R. 397, 398) These gravels carry a substantial amount of flow (R. 431) which could be made available. (R. 431, 632, 633, 634)

By Zannaras' own sworn statements made prior to development of his shortage claims he knew the creek historically dried up and wasted away in the summer. "I have known that there are seasons of the year when there is no running water to be seen in Burro Creek." (14248 R. 411) "No; this time today we have a very dry spell along there. It is now dry this time of the year." (14248 R. 390)

Apparently, even though Zannaras knew there were areas of the river bed which showed no live water in dry periods it is appellants' theory that a point of diversion could be established at a point where the gravels were relatively thick as immediately above the Zannaras diversion (R. 397, 398) where the record shows they were 37 feet deep as compared to an average depth of 10 feet for the channel, and, despite the fact it was well known that the water, in times of shortage would sink into these gravels, nonetheless insist that the entire flow of the creek be wasted on the chance that a few dribbles of water would thereby be forced to the surface. Such is not the public policy governing water use in the West.

> " . . . The wasteful methods so common with early settlers can, under the light most favorable to their system of use, be deemed only a privilege permitted merely because it could be exercised without substantial injury to any one; and no right to such methods of use was acquired thereby."
>
> *Hough v. Porter,* 98 P. 1083, 1102 (Ore. 1909)
>
> *Raymond v. Wimsette,* 31 P. 537, 540 (Mont.)
>
> *Fenstermaker v. Jorgensen,* 178 P. 760, 763 (Utah)
>
> *Albion-Idaho Land Co. v. N.A.F. Irr. Co.,* 97 F. 2d 439

Upon the same theory, appellants could have initiated their appropriation a short distance below the Bagdad diversion where the water generally disappeared beneath the gravels other than under optimum water supply conditions and then insisted that Bagdad abandon in practical effect its appropriation except when a large amount of water was flowing in the creek, since, while the water was there if any effort were made to expose it through-

out the year in ample quantities nonetheless since it wasn't on the surface, therefore Bagdad must quit pumping even though such cessation would in no manner operate to bring the water to the surface. The great weight of the evidence was to the effect that this physical condition obtained below the Bagdad diversion. (14248 R. 149, 162, 163 Ex. B in Evid.)

The Court in its Memorandum decision (R. 31, 32) in effect found that *upon all the evidence* admitted, the Court could not justify a finding that Bagdad's pumping deprived appellants of water legally theirs. This is no "burden of proof" question—this is a finding by the Court, based on all the evidence, that the Court could not conscientiously make a finding necessary to warrant injunctive relief. Perhaps expressed in a backhanded manner but nonetheless expressed.

This is shown by the affirmative positive findings of fact formally made by the Court (a) that Burro Creek is a seasonal stream which wastes away or tends to waste away through the summer months; (b) that immediately below the Bagdad diversion Burro Creek spreads out into a long flat basin of 1374 acres overlaid with a heavy deposit of sands and gravels substantially overgrown with vegetation resulting in a very high loss of water from evaporation and transpiration during the summer months. (R. 33, 34)

The Court then found from all the evidence, *including the testimony as to annual summer water disappearance* long before Bagdad did any pumping of water below the Bagdad diversion that the Court could not find that the water shortage was attributable to Bagdad's pumping. By way of illustration:

John M. Neal, a cattle rancher with mining interests of Mohave County (owner of a 9,000 acre, 800 to 1,000 head of cattle ranch) who at 12 years of age had first hauled water from Burro Creek at the Zannaras diversion point and who from then on until 1929 was intimately acquainted with the area testified that he bought the Bogle, Olaya and Ferguson ranches in 1907 eighteen miles up the creek from the Bogle ranch headquarters and fifteen miles down the creek and owned them until 1929. During this

entire time he was personally familiar with conditions on the creek in this area. He testified that the water uniformly disappeared except where bed rock came to the surface to form a barrier every summer generally in July. (14248 R. 142, 143, 144, 145, 150, 151) (On cross examination):

"Q. You don't know, or do you know whether or not there was water flowing past the Zannaras point of — where he takes water out for his mill except in those two years that you mentioned?

"A. I saw the water flowing there many times up until June and sometimes the first of July before it would sink there.

"Q. What years are you talking about now?

"A. Well, any year from 1907 to 1929."

(14248 R. 151)

See also: Testimony of Orville Bogarth, Sheriff of Yavapai County, who rode the area from the age of 8 to 21; (14248 R. 155 et seq.); Ernest Degen, who prospected the area from 1905 for over 30 years (14248 R. 173 et seq.); A. D. Richardson, familiar with the area from 1923 on (14248 R. 178 et seq.); Alvis M. Short, a miner from Kingman, Arizona, familiar with the creek, particularly between 1925 - 1940. (14248 R. 234 et seq.)

Each of these witnesses testified from personal knowledge, unequivocally, that the creek below the Bagdad diversion dried up, other than for floods, potholes and where bed rock brought the underflow to the surface, every summer.

When there is then superimposed upon this unimpeached and dependable testimony the scientific study made by Dr. Thiele and Professor Fletcher, the rule as to burden of proof loses all significance for it is most clearly apparent that whatever the applicable rule may be, appellee not only proved the fact that its pumping in the summer is not the real cause of the shortage of water of which the appellants complain but demonstrated it so effectively that the result reached by the Court must be conceded

to have been a correct result whatever reasons may have been given for reaching it.

ANSWER — "RES JUDICATA"

Counsel would, apparently for the purpose of this argument, consider Cause No. 321 as consolidated with No. 221 and for other purposes regard them as separate causes. "This cause (No. 221) is in no way dependent on Civil Cause Number 321." (R. 25)

However, we need not concern ourselves further with the many authorities cited by appellants since the situation is clearly governed by three separate and well-established legal principles.

This is clear for the reason that while the two causes had been under consideration by the Court, concurrently with its minute order finding the issues in Cause No. 321 for the defendants there and appellants here, the Court, by a further minute order vacated the order taking Cause No. 221 under submission specifically for the purpose of hearing further evidence. We respectfully submit that there could be no clearer evidence of the fact the Court reserved this issue for determination than its action in vacating the submission order in Cause No. 221, since the sole issue in Cause No. 221 was this question.

50 *C.J.S.* Sec. 659, p. 104 et seq.

> "An order or judgment of a court is not final if an issue of law or fact essential to the disposition of the action is reserved for judicial determination."

Restatement of the Law, "Judgments," Sec. 41, p. 161

N.L.R.B. v. Clark Bros. Co., 163 F. 2d 373 (C.C.A. 2)

30 *Am. Jur.* Sec. 181, p. 927, *"Judgments"*

Second: Where two inconsistent judgments are rendered between the same parties, the last in time controls.

Restatement of the Law, "Judgments," Sec. 42 p. 164 et seq.

49 *C.J.S.,* Sec. 445, p. 876

Donald v. J. J. White Lbr. Co., 68 F. 2d 441 (C.C.A. 5)

Either that or the later inconsistent judgment "setteth the matter at large."

49 *C.J.S.,* Sec. 445, p. 876

Kahl v. Chicago Title & Trust Co., D.C. Ill. 299 F. 793

Thirdly, and conclusively:

". . . A sufficient answer is that neither by pleadings nor evidence were the proceedings in this other case brought before the court of claims in the present suit. If a party neither pleads nor proves what has been decided by a court of competent jurisdiction in some other case between himself and his antagonist, he cannot insist upon the benefit of *res judicata,* and this although such prior judgment may have been rendered by the same court. . . . "

United States v. Bliss, 172 U.S. 321, 43 L.Ed. 463, 465

50 *C.J.S.,* Sec. 597, p. 15

Murrell v. Stock Growers' Nat. Bank of Cheyenne, 74 F. 2d 827, 833 (C.C.A. 10) (and numerous federal and state cases footnoted at pages 832, 833)

When the cause came on for further evidence March 9, 1954, appellants appeared and made no objection to taking of testimony and made no reference to the judgment in Cause No. 321. Appellee, before offering further evidence, outlined in detail its proposed further proof and no objection was made. (R. 347, 348, 349, 350, 351, 352, 353, 354) Appellants cross-examined all witnesses in detail and at length and at no time brought to the Court's attention or relied upon the judgment in Cause No. 321. Indeed, in appellants' "Renewal of Motion to Set Cause for Hearing" (R. 23 et seq.) filed December 5, 1953, the appellants flatly said "This cause is in no way dependent on Civil Cause Number 321." (R. 25) This was filed approximately three weeks after the Finding had been formally made by the Court in Cause No. 321.

We see no point in listing the many cases cited in *Murrell v. Stock Growers' Nat. Bank of Cheyenne* above referred to, since

the principle is accepted universally that a waiver follows failure to assert a claim based on a prior adjudication when such claim is relitigated in such subsequent litigation. Failure to assert the prior adjudication is universally regarded as an agreement to relitigate the issue since the defense of *res judicata* does not go to the jurisdiction of the court subsequently hearing the matter.

"LAW OF THE CASE"

This portion of Appellants' Opening Brief seems to us entirely pointless for the reason that it is without application to the facts as they appear of record in this cause. The issues involved in Cause No. 321 are relatively simple. First, whether the certificate of water right was obtained by the defendants in that cause by fraud and whether or not such would warrant cancellation of the certificate. Secondly, whether the rights of the defendants in Cause No. 321 had been lost through forfeiture by nonuser. The court below held, and this Court affirmed the finding, that the statute of limitations denied plaintiff in that cause and appellee here the right to raise and litigate the issue of fraud and that there was sufficient evidence of *intermittent* use by defendants therein to prevent a statutory forfeiture. It is true that one of the defenses in that cause was that the pollution of the water by Bagdad and Bagdad's use itself of the water was an excuse for the defendants' failure to use the water and that the Court collaterally made a finding to the effect that a main cause of appellants' nonuser was use by Bagdad. However, the fact that the Court was not satisfied with this evidence to the extent it was willing to order a perpetual injunction clearly appears from its order made concurrently with its order finding the issues for defendants in Cause No. 321 vacating the order of submission in Cause No. 221 for the taking of further evidence.

To lay once and for all the "ghost" of consolidation urged as a fact by appellants seeking to apparently by repitition convince the Court that Cause No. 321 and Cause No. 221 became merged and tried together, we make reference to the record in Cause No. 321 as appears in Cause No. 14248.

Referring first to the colloquy between court and counsel, one line of which appellants cite at page 40, in which the Court seeks to question why the causes should not be consolidated, it affirmatively appears that Bagdad at that point explained to the Court why consolidation would be improper, inasmuch as the issues and evidence would be different in the two causes. Following this colloquy at page 54 the Court states:

"Well, you go ahead with your 321. Then we will see."

to which remark appellants' then counsel stated: "221." The Court then replied "Yes, 221. Then we will see how it fits in."

The record discloses at page 141 that appellants' counsel at the conclusion of his case announced "We now rest our case on the Petition for Relief."

The minutes appearing in the transcript in Cause No. 14248, page 26 show the following:

"It is ordered that the plaintiffs in Civil 221 Prescott proceed with proof therein prior to presentation of evidence in Civil 321 Prescott."

"Hearing is now had on said Amended Petition for Relief in Civil 221 Prescott".

At the end of plaintiff's case as so labeled in the minutes, appears following the notation of the fact that plaintiff rested on the Petition for Relief in Civil 221 Prescott, the opening notation "Bagdad Copper Corporation's case."

It is unfortunate when counsel, in an effort to cooperate and conserve the time of opposing counsel and the Court, finds this willingness to cooperate apparently turned against it in an effort to show that the very harm which was brought to the Court's attention as the reason for not consolidating would now apparently nonetheless be inflicted upon appellee's position.

The law of the case is completely inapplicable in that first, the trial court did not regard the trial and findings made by it in Cause No. 321 as applicable to the issues in Cause No. 221 and

reserved the right to further explore the facts and the law in Cause No. 221. All this Court did on appeal was to conclude that the statute of limitations was applicable and the finding of the trial court with respect to intermittent use supported by evidence sufficient to sustain it. The conclusion stated that the judgment of the District Court in Cause No. 221 "nullified, impeached, reversed and overruled the former judgment and misconstrued and failed to carry out the mandate of this Appellate Court" evidences a complete lack of understanding of the issues in Cause No. 321 and Cause No. 221. Since the decision of this Court in Cause No. 321 we have not questioned the fact and do not now question the fact that as of the date of the decision of this Court the right of appellants to 3,000,000 gallons of water annually was established as a matter of law. That is the total insofar as this case is concerned that was there established. We see no point in extensively further replying to this phase of Appellants' Opening Brief.

"PRIMA FACIE CASE"

Frankly, we are not entirely clear as to just what appellants are seeking to persuade the Court of in this phase of their brief. Apparently some point is made of the fact that a paper entitled "Renewal of Motion to Set Cause for Further Hearing" was filed, making certain representations to the Court and that Bagdad did not object to the matter being set. We are not aware of any rule which in effect makes an order to set an application for hearing an adjudication of the representations made in the motion to set or which requires a formal reply to a motion to set containing fact averments, denying the same. We find no law to that effect and presume the reason is there is none, for no one has ever before made such a contention.

We are quite sure that the assertion made by appellants at page 43 of their Opening Brief to the effect that Bagdad had never, prior to 1954, urged that water would not reach the Zannaras diversion point even if Bagdad did not pump any water, stems from a failure to have read the record carefully. We are

certain appellants do not seek to mislead the Court in this respect. A very substantial part of the testimony presented in the trial of Cause No. 221 on the setting of the Petition for Further Relief was directed to this very point. As we have before indicated the most comprehensive and convincing testimony was offered by John M. Neal of Kingman, Arizona, who prior to the turn of the century, as a boy hauled water for his father, who was mining in the area, from substantially the present point of diversion of Zannaras. Subsequently in 1907 he purchased the ranches which encompassed the entire stretch of the creek the situs of this controversy and he ranched there until 1929. It was clear in his testimony that uniformly about July of each year the water would fail. He was not shown to have any interest in this litigation or to have any connection with Bagdad and his testimony was entirely unimpeached. In this he was collaborated by the then Sheriff of Yavapai County, who rode the area as a cowboy in his youth and by numerous persons who had prospected the area for many years before Bagdad pumped any water from Burro Creek. Reference has been heretofore made in this brief, supra, page 24, to this testimony.

Appellants then attempt to distinguish the *Albion-Idaho Land Company case.* Their argument in this attempt is directed to phases of the holding in that case which have nothing to do with this case and hence do not reach the legal principle which the trial court felt was governing. In addition, there are of course numerous additional cases, several of which we cited, supra, page 22.

The record is made up of the long history of water failure every summer in Burro Creek, supported, bolstered and explained by the studies made of the area by Dr. Thiele and Professor Fletcher, which present as clear and convincing a showing as we believe could be made other than by putting on witnesses to repeat statements made by witnesses theretofore on the stand. The force of the evidence contrary to this was very weak and no attempt was made to disprove the scientific conclusions of the two expert witnesses. We therefore say that had the Court deter-

mined the case otherwise we would have felt completely confident that upon a review by this Court the conclusion would have been reached that there was no reasonable conclusion to draw other than that the failure of the water to reach the Zannaras point of diversion was directly related to the soil conditions and topography and not to the relatively small amount of water pumped by Bagdad. When it is realized that the maximum capacity of its pump was 94 acre feet per month if operated continuously this would amount to substantially 3 acre feet a day, which 3 acre feet otherwise would have spread out into an alluvial plane overgrown with phraetophytes, filled with sand and gravels and with a relatively insignificant slope under climatic and altitude conditions would, by calculations based on findings of the U.S.G.S. for that area lose in the month of June by evaporation and transpiration at least three-fourths of an acre foot of water for each acre in the area.

"CHANGE OF METHOD AND MEANS OF DIVERSION"

If we understand appellants correctly, it is their contention that when Bagdad, through a dam across a canyon adjacent to its mill, conserved and saved the tail water, permitting it to settle so the water could be reused, it made a change in its method of diversion, to the prejudice of appellants. It has been so long established as the water law of the West that he who salvages water may reuse it and that the premium is on the careful use and reuse of water and not upon its wasteful use, that we are mildly astounded at the contention. Apparently as a method of proving how much water Bagdad would have wasted had it not salvaged its tailings and reused the water, counsel proceeds to determine how much water Bagdad could pump and concludes that since it could pump the water it must have been there and then concludes that since Bagdad was milling generally 3,000 tons of ore per day it must have used 7,000 tons of water which would have returned to the creek.

Counsel then argues that because a witness testified that in 1944 Bagdad filed a notice of complete application of water to

beneficial uses showing beneficial use of 600,000,000 gallons of water per annum, therefore, even though nowhere else in the record does any evidence appear to support the fact it did or does use such water, nonetheless it is within the realm of propriety that this figure be used to prove how much water was used, for what purposes we do not know. Counsel next argues because the pump capacity of Bagdad was 394,000,000 gallons of water therefore it pumped this water and therefore if it pumped this water it would have let a lot of waste water run back to the stream if it hadn't salvaged it and therefore some type of legal damage resulted to Zannaras through Bagdad's salvaging its tailings water. The following selection of cases sets forth the law with respect to the use of salvage water and the rights of he who salvages it.

Pomona Land & Water Co. v. San Antonio Water Co., 152 Cal. 618, 93 P. 881 (1908)

Wiggins v. Muscupiabe L. & W. Co., 113 Cal. 195, 45 P. 164 (1896)

Smith v. Duff, 39 Mont. 382, 102 P. 984 (1909)

Spaulding v. Stone, 46 Mont. 483, 129 P. 327 (1912)

Reno v. Richards, 32 Ida. 1, 178 P. 81 (1918)

Basinger v. Taylor, 36 Ida. 591, 211 P. 1085 (1922)

Hill v. Green, 47 Ida. 157, 274 P. 110 (1928)

St. John Irrigating Co. v. Danforth, 50 Ida. 513, 298 P. 365 (1931)

Ironstone Ditch Co. v. Ashenfelter, 57 Colo. 31, 140 P. 177 (1914)

San Luis Valley Irrigation Dist. v. Rio Grande Drainage Dist., 268 P. 533 (Colo. 1928)

Coryell v. Robinson, 194 P. 2d 342 (Colo. 1948)

"ADMITTED USE OF MORE WATER THAN ENTITLED TO USE UNDER CERTIFICATE OF WATER RIGHT"

"USE OF WATER FOR PURPOSES OTHER THAN ITS OWN MINING OPERATIONS"

The foregoing two portions of appellants' brief merit only this reply. Dr. Thiele testified that if Bagdad pumped its rated 94 acre feet per month it would use approximately 1,100 acre feet of water per year. In this same testimony he called attention to the fact that in June Bagdad pumped only 69 acre feet, and the record is replete with references to the fact that in many instances the pumps were not the cause of insufficient water supply.

The use of water by Bagdad for uses other than mining is inconsequential and largely related to its mining operation as a related use. We do not believe the matter is of consequence justifying further reply.

"FINDINGS OF THE STATE ENGINEER"

Again, this is the first instance we have encountered of the casual testimony of a witness who happened to be the Engineer of the State Water Department giving in effect adjudicatory force to his testimony. He stated no more, as a reading of the record will show, than that he, at the solicitation of Zannaras, went to certain points on the stream and that it was dry. He did not attempt to state he made any engineering study or that he went there in his capacity of State Engineer. In fact, there is no statutory authority authorizing any such activity on his part or giving to his observations, when as a matter of courtesy he visits a section of the state, the force of an official finding.

"THE JUDGMENT IS CONTRARY TO THE WEIGHT OF THE EVIDENCE"

Appellants here seek to go behind the judgment rendered on the first trial of Cause No. 221 March 3 and 4, 1949, and to bring to the attention of the Court exhibits there introduced. In the hopes perhaps of justifying this, counsel refers to the first trial as a preliminary hearing and to the trial in 1952 and 1954 as the final hearing.

The facts are that the first judgment became a final judgment and appellants are not entitled to or justified in attempting to go behind it and in effect review that judgment on an appeal initiated some eight or nine years after the judgment became final.

The most interesting portion of this argument appears at pages 62 and 63 wherein counsel proves that Burro Creek is a continuously running stream by first taking the capacity of Bagdad's pumps, the testimony of witnesses as to the amount of water which could be pumped if the pumps were operating continuously and then concludes from these figures that in order for this equipment to operate successfully the stream has to be constantly flowing and therefore it must be flowing. At pages 65 and 66 counsel attempts by fragments of testimony to draw the conclusion that the testimony of Dr. Thiele and Professor Fletcher was based upon other than personal observation and facts known to the witness. The answer to that is that Dr. Thiele and Professor Fletcher both testified to a personal physical examination of the area with that of Dr. Thiele extending over the better part of two weeks assisted by four to six persons. Appellants then attack his testimony on the basis that apparently because water is found flowing at Kingman Crossing practically continuously, therefore Dr. Thiele's conclusion that water permitted to enter the upper end of the basin would not reach the lower end must be disbelieved. In this appellants demonstrate their lack of understanding of hydrology and of the testimony of Dr. Thiele. By his own physical examination he determined that the water level at the well at the Bogle Ranch approximately half way between the Bagdad diversion and Kingman Crossing was 150 inches higher than the lip of the bed rock at Kingman Crossing. This would be something over 12 feet higher. It is a well-known and simple principle of physics and hydrology that water generally seeks its own level. We would of necessity conclude that the only force which prevented the draining down of this water level with a rush to the lip of the bed rock at Kingman Crossing was the friction of the sand and gravels intervening limiting its movement in relation to the permeability of the material through

which it moved. Certainly, through the entire summer until the water level in the entire basin was drained down to the level of the outflow at Kingman Crossing there would be a return flow coming from the ground water at Kingman Crossing. This does not demonstrate that putting in water at the upper end of the basin at a rate slower than the basin was losing water during the hot summer months would in any fashion augment or increase the flow at Kingman Crossing. Counsel overlooks entirely the fact that there is no conflict in the evidence but that during the summer months the stream intermittently sinks beneath the surface and rises and that it generally disappears beneath the sands and gravels of the basin some few hundred feet below the Bagdad diversion, reappearing, it is true, from time to time. However, when the water is once underground it is apparent that the outflow which is seen at a point lower down on the stream is not the water which disappeared upstream shortly theretofore but is ground water which has been in the ground many days and which comes to the surface at that point by reason of geological conditions bringing it to the surface. Water does not "run" underground in the usual acceptance of that term—it moves underground.

"WATER RIGHT A PROPERTY RIGHT"

We have no quarrel with this principle. Nor do we quarrel with the fact that this Court confirmed the water right of appellants to 3,000,000 gallons per year without, however, determining when such water was to be taken by appellants. Certainly, if appellants had a bona fide desire and need for water in a bona fide milling operation, knowing by their own sworn testimony heretofore referred to, that historically the creek dries up in the lower reaches through the hot summer months they would either have arranged to mill during the times of plentiful water or arranged a very simple storage basin wherein water, in times of plenty, might be stored against the shortages of the summer just as Bagdad has done. 10 acre feet of water is a relatively minor amount, so that the amount needed in storage to take care of the

relatively brief period of shortage in the summer would not be great. Certainly, too, it is significant that appellants have made no effort to tap the water moving in the gravels at their point of diversion. The testimony was uniform in the 1952 hearing that there was always water flowing at Kingman Crossing which means that the underground storage between there and the Zannaras diversion was under constant recharge. This testimony, coupled with the testimony of Mr. Dickie and Dr. Thiele heretofore referred to, conclusively demonstrates that there would be water available without serious expense to appellants even during the dry summer months if any reasonable effort was made to reach it. Indeed, one of their own witnesses so testified in the 1952 trial. (14248 R. 127)

We recognize that a lower senior appropriator may not be required to go to large expense to continue enjoyment of his water right. This does not mean, however, that where the nature of the stream is such that he must have reasonably foreseen that at certain periods of the year extra efforts would be required to reach the flow if use was to be made consistently, that such senior appropriator can refuse to make such reasonable effort. Zannaras by his own sworn testimony knew that such was the nature of Burro Creek.

CONCLUSION

Bagdad respectfully asserts that it clearly and with convincing force demonstrated that the shortages occurring during the three hot summer months occur by reason of natural conditions and not by reason of its pumping activities. No real effort was made by appellants to contest such fact.

The natural conditions here are such that the underflow of the basin below Kingman Crossing must be tapped if a consistent supply of water is to be made available to Zannaras; either that or the milling operations should be tailored to the times when nature is kinder in its draughts upon the stream than through the hot summer.

We respectfully urge that the judgment of the District Court achieves a just and lawful result and should be affirmed.

Respectfully submitted,

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